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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 21

Application Number: 09/377,642
Filing Date: August 19, 1999
Appellant(s): COHEN ET AL.

Stephen R. Tkacs
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/21/04.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

The amendment after final rejection filed on 1/21/04 has been entered.

(5) *Summary of Invention*

The summary of invention contained in the brief is deficient because Appellant fails to point to the embodiment now being claimed. The invention provides a method and apparatus in a data processing system for performing a raster operation of graphics data on a picture element (a single pixel) from the first plurality of picture elements (source) and a picture element (a pixel) from the second plurality of picture elements (destination) and writing the processed picture element to the video (destination)

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memory and repeating for each picture element in the first and second plurality of picture elements.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1-6, 12-24 and 30 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,699,498	Noorbakhsh	12-1997
5,473,566	Rao	12-1995

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-6, 12-24 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noorbakhsh (5,699,498) in view of Rao (5,473,566).

Noorbakhsh teaches a method in a data processing system (computer system, col. 1, lines 13-14) for performing a raster operation (col. 1, line 30) of graphics data, wherein the data processing system includes a system memory (col. 1, line 31-32) and a video memory (36-37), wherein the system memory and the video memory are connected by a bus (system bus, col. 1, line 34, it is noted that the video memory is not directly connected to the system bus) and wherein the graphics data is organized into

picture elements (array of pixels, col. 1, line 41), comprising selecting a first plurality of picture elements from the system memory and selecting a second plurality of picture elements from the video memory (it is noted that Noorbakhsh fails to explicitly suggest or teach "selecting a first and second plurality of pixels from the system and video memories". Noorbakhsh suggests or teaches "reading data from source (system memory) and destination (video) memory areas" (col. 1, lines 25-27). In order to read data from the memory areas, Noorbakhsh must first selected the data and then read the selected data.), wherein "the first and second plurality of picture elements are selected such that changes in a direction of data on the bus are minimized when performing raster operations on the first and second plurality of picture elements." It is noted that in accordance with the present specification, page 12, lines 20-30, this is done by transferring a block of pixels (such as, a scan line) instead of one pixel at time. Noorbakhsh clearly suggests or teaches, "bit boundary block transfer (BitBLT) engines are useful in VGA controller (graphics engine) for accelerating BitBLT operations. A BitBLT operation involves a block data transfer such as, moving a **rectangle of data** (such as, a scan line) from one area to another" (col. 1, lines 19-24)); reading the first and second plurality of picture elements from the system and video memories (col. 1, lines 25-27). However, Noorbakhsh fails to explicitly suggest or teach **performing a raster operation on a picture element** from the first and second plurality of picture elements to form a processed picture element (col. 1, lines 27-30); and writing the processed picture element to the video memory (col. 1, lines 30-31); and repeating the performing and writing steps for each picture element in the first and second plurality of

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picture elements until all picture elements have been processed. These are what Rao teaches. Rao teaches these are conventional bit block transfer techniques, where data is moved on a word-by-word or byte-by-byte basis instead of moving data an entire row of data at a time (col. 1, lines 46-50 and col. 2, lines 8-11). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to combine the teachings of Rao into the system of Noorbakhsh because this is a conventional bit block transfer technique as taught by Rao and is considered well known and well use in the art at the time of invention. Rao further teaches an improve Bit block transfer technique by data movement of an entire row of data at a time (col. 7, lines 4 and 8-14). Therefore, at least claims 1-6, 12-24 and 30 would have been obvious by Noorbakhsh and Rao.

(11) Response to Argument

Regarding prior art to Noorbakhsh, Appellant argues that Noorbakhsh fails to teach or suggest performing raster operations and writes to video memory on **a pixel-by-pixel basis**. The examiner agrees and this is why the Examiner added the prior art to Rao.

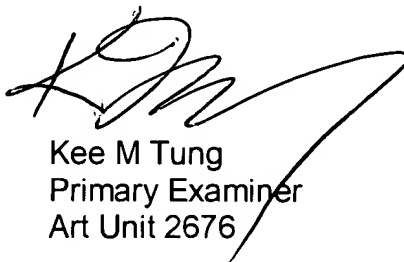
Regarding prior art to Rao, Appellant argues that Rao also fails to make up for the deficiencies of Noorbakhsh. The examiner disagrees. Rao clearly stated "typical bit block transfer techniques read data from the source block of memory locations **a word or byte at a time** (It is noted that a pixel can be any number of bits based on the resolution, such as, a pixel can be 8-bits, 16-bits, 24-bits) and then write that data into

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the destination block of memory **a word or byte at a time**" (col. 1, lines 46-50). It is noted that even though Rao did not mention performing "raster operations". Performing raster operations are one of the inherent steps performing during bit block transfer operation (see Noorbakhsh). Therefore, Rao clearly teaches or make up the deficiencies of Noorbakhsh.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,




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Art Unit 2676

KMT
March 4, 2004

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